

U.S. Appln. No. 09/900,843  
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### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

#### LISTING OF CLAIMS:

1. (Currently Amended) An apparatus for screening materials in an array comprising:
  - a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
  - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
  - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
  - d) a semipermeable membrane adjacent the array support; ~~and~~
  - e) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and
  - f) a heat source in alignment with the window.
2. (Canceled)
3. (Original) The apparatus of Claim 1 further comprising a detector in fluid communication with the fluid outlet.
4. (Original) The apparatus of Claim 1 further comprising at least one fastener connecting the first portion and the second portion of the reaction cell.
5. (Original) The apparatus of Claim 1 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
6. (Original) The apparatus of Claim 1 further comprising a spacing support positioned between the window and the array support.
7. (Original) The apparatus of Claim 6 wherein the spacing support is a toothed support.

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8. (Original) The apparatus of Claim 1 wherein the array support and the semipermeable membrane are comprised of different materials.
9. (Original) The apparatus of Claim 1 further comprising at least one heater in contact with the cell.
10. (Original) The apparatus of Claim 1 wherein the fluid inlet and one fluid outlet are located in the first portion of the cell while a second fluid outlet is located in the second portion of the cell.
11. (Original) The apparatus of Claim 1 wherein the cell contains two fluid outlets where the fluid outlets are on opposite sides of the combination of the array support and the membrane.
12. (Original) The apparatus of Claim 1 further comprising a membrane support positioned within the cell adjacent to the semipermeable membrane.
13. (Currently Amended) The apparatus of Claim ~~2~~ 1 wherein the heat source is a radiation source.
14. (Original) The apparatus of Claim 3 wherein the detector is a mass spectrometer.
15. (Original) The apparatus of Claim 14 wherein the mass spectrometer is a quadrupole mass spectrometer.
16. (Original) The apparatus of Claim 1 wherein the semipermeable membrane is hydrophobic.
17. (Original) The apparatus of Claim 16 wherein the semipermeable membrane is silicone rubber.
18. (Original) The apparatus of Claim 1 further comprising a dispersion structure positioned between the fluid inlet and the array support.
19. (Original) The apparatus of Claim 1 wherein the array support is selected from the group consisting of carbon paper and alumina.
20. (Currently Amended) The apparatus of Claim ~~1~~ 3 further comprising a calibration port located between the fluid outlet and the detector.
21. (Original) The apparatus of Claim 3 wherein the detector is connected to a microprocessor.
22. (Currently Amended) The apparatus of Claim ~~2~~ 1 wherein the heat source is connected to a microprocessor.

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23-41. (Cancelled)

42. (New) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least two fluid outlets and said first portion defining a passage;
  - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
  - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
  - d) a semipermeable membrane adjacent the array support; and
  - e) said fluid inlet and at least one fluid outlet positioned on the same side of the combination of the array support and the semipermeable membrane and at least one fluid outlet positioned on the opposite side of the combination of the array support and the semipermeable membrane.
- 43) (New) The apparatus of Claim 42 further comprising a detector in fluid communication with the fluid outlet.
- 44) (New) The apparatus of Claim 42 further comprising at least one fastener connecting the first portion and the second portion of the reaction cell.
- 45) (New) The apparatus of Claim 42 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 46) (New) The apparatus of Claim 42 further comprising at least one heater in contact with the cell.
- 47) (New) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
  - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
  - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
  - d) a semipermeable membrane adjacent the array support;
  - e) a membrane support positioned within the cell adjacent to the semipermeable membrane; and

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- f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.
- 48) (New) The apparatus of Claim 47 further comprising a detector in fluid communication with the fluid outlet.
- 49) (New) The apparatus of Claim 47 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 50) (New) The apparatus of Claim 47 further comprising at least one heater in contact with the cell.
- 51) (New) An apparatus for screening materials in an array comprising:
  - a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
  - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
  - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
  - d) a dispersion structure positioned between the fluid inlet at the array support;
  - e) a semipermeable membrane adjacent the array support; and
  - f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.
- 52) (New) The apparatus of Claim 51 further comprising a detector in fluid communication with the fluid outlet.
- 53) (New) The apparatus of Claim 51 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 54) (New) The apparatus of Claim 51 further comprising at least one heater in contact with the cell.
- 55) (New) The apparatus of Claim 51 further comprising a membrane support positioned within the cell adjacent to the semipermeable membrane.
- 56) (New) An apparatus for screening materials in an array comprising:
  - a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;

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- b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
  - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
  - d) a semipermeable membrane adjacent the array support;
  - e) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and
  - f) a detector in fluid communication with the fluid outlet and a calibration port located between the fluid outlet and the detector.
- 57) (New) The apparatus of Claim 56 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 58) (New) The apparatus of Claim 56 further comprising at least one heater in contact with the cell.
- 59) (New) The apparatus of Claim 56 further comprising a membrane support positioned within the cell adjacent to the semipermeable membrane.
- 60) (New) The apparatus of Claim 56 further comprising a dispersion structure positioned between the fluid inlet and the array support.